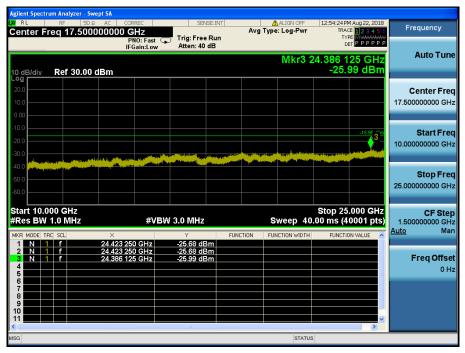
Agilent Spectrum Analyzer - Swej ₩ RL RF 50Ω		SENSE: INT	ALIGN OFF	12:54:08 PM Aug 22, 2018	
Center Freq 15.0045			Avg Type: Log-Pwr	TRACE 123456 TRACE 123456 TYPE MWWWWW DET PPPPP	Frequency
10 dB/div Ref 30.00 d			I	Mkr2 281.9 kHz -45.87 dBm	Auto Tune
Log 20.0 10.0 0.00					Center Freq 15.004500 MHz
-10.0				-15.95 dBm	Start Freq 9.000 kHz
-40.0 2	united and a subsection of the	figuspilenselepsyskrift filmediteorskei	สามรับไข เรืองไข เป็นที่ เป็น เป็น เป็น เป็น เป็น เป็น เป็น เป็น	ยี่สาร์เกาะ โรยเกาะ (ระการๆ การการๆ การการๆ รับการการที่มีการรับสุขาย	Stop Freq 30.000000 MHz
Start 9 kHz #Res BW 100 kHz	#VBV	V 300 kHz	Sweep 5.3	Stop 30.00 MHz 333 ms (40001 pts)	CF Step 2.999100 MHz <u>Auto</u> Man
1 N 1 f 2 N 1 f 3 1 f 3 6	281.9 kHz 281.9 kHz	-45.87 dBm -45.87 dBm			Freq Offset 0 Hz
7 8 9 10 11 •		10		~	
ISG			STATUS	DC Coupled	

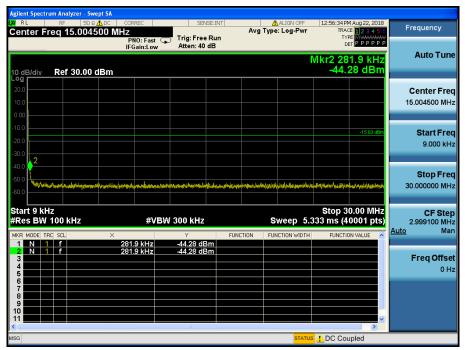
Agilent Spectrum Analyzer - Swep X RL RF 50 Ω Center Freq 5.015000	AC CORREC	SENSE: INT	ALIGN OFF Avg Type: Log-Pwr	12:54:16 PM Aug 22, 2018 TRACE 1 2 3 4 5 6	Frequency
10 dB/div Ref 30.00 dB	PNO: Fast G	Atten: 40 dB	Mkr	5 5.860 21 GHz -35.21 dBm	Auto Tune
20.0	↓1				Center Freq 5.015000000 GHz
-20.0 -30.0			5 34	-15.95 dBm	Start Freq 30.000000 MHz
-40.0 -50.0 -60.0					Stop Freq 10.000000000 GHz
Start 30 MHz #Res BW 1.0 MHz	#VBV	/ 3.0 MHz	Sweep 18	Stop 10.000 GHz .67 ms (40001 pts)	CF Step 997.000000 MHz <u>Auto</u> Man
1 N 1 f 2 N 1 f 3 N 1 f 4 N 1 f 5 N 1 f 6	2.415 82 GHz 5.417 79 GHz 6.264 24 GHz 6.367 43 GHz 5.860 21 GHz	11.20 dBm -34.72 dBm -35.15 dBm -35.21 dBm -35.21 dBm			Freq Offset 0 Hz
7 9 10 11				~	
MSG			STATUS		

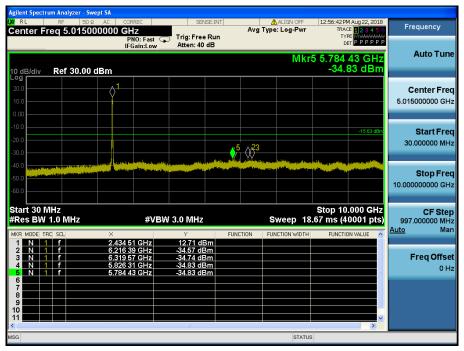


TM 2 & Middle

Reference





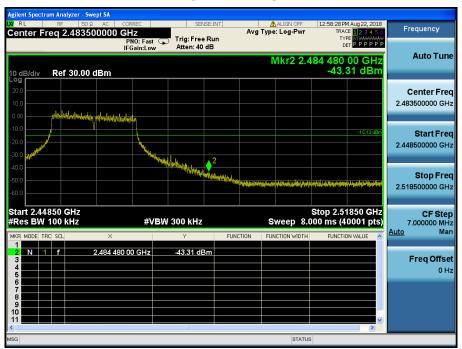


Agilent Spectrum	Analyzer - Swept	SA .					
	RF 50 Ω		SENSE:1		🔥 ALIGN OFF	12:56:50 PM Aug 22, 2018	Frequency
Center Free	<u>17.50000 ן 17.50</u>	0000 GHz	👝 Trig: Free Ru		Type: Log-Pwr	TRACE 2 3 4 5 6 TYPE M 4444444	
		PNO: Fast IEGain:Lov				DETPPPP	
		ii Guilleoi			Maluno c	0 005 750 OU	Auto Tune
					IVIKIS 2	23.695 750 GHz	
10 dB/div R	tef 30.00 dE	3m				-27.26 dBm	
_							
20.0							Center Freq
10.0							17.500000000 GHz
0.00							
-10.0							
						-15.63 dBm	Start Freq
-20.0						│	10.00000000 GHz
-30.0		an a	AND DESCRIPTION OF TAXABLE PARTY.	State of the second state of the	WARRAND COMPANY AND INCOME.	The broad approximate and the second s	
-40.0		and the second secon		and the second s	And Street Street	And the state of t	
							Stop Freq
-50.0							25.000000000 GHz
-60.0							
Start 10.000						Stop 25.000 GHz	
#Res BW 1.0) MHz	#V	'BW 3.0 MHz		Sweep 40	.00 ms (40001 pts)	
MKR MODE TRC 9	SCL	X	Y	FUNCTION	FUNCTION WIDTH	FUNCTION VALUE	Auto Man
		24.536 125 GHz	-26.42 dBm				
2 N 1 3 N 1		24.536 125 GHz	-26.42 dBm				Freq Offset
3 N 1	r2	23.695 750 GHz	-27.26 dBm				
5						=	0 Hz
6							
8							
9							
10							
11						~	
MSG					STATUS	,	
Down					STATUS		

TM 2 & Highest

nt So ctrum Analy ent SA OR RL RF 50 R AL COMMENT Center Freq 2.462000000 GHz PNO:Fast IFGain:Low Atten: 40 dB TRACE SENSE:INT ALIGN OFF 12:57 Frequency RACE 12345 C TYPE MWWWWWW DET P P P P P P Auto Tune Mkr1 2.455 756 GHz 4.87 dBm Ref 30.00 dBm 10 dB/div **Center Freq** 2.462000000 GHz **^**1 Start Freq mhru 2.449692500 GHz mmunum Stop Freq 2.474307500 GHz MANNAN ر الم **CF Step** 2.461500 MHz Man Auto Freq Offset 0 Hz Center 2.46200 GHz #Res BW 100 kHz Span 24.62 MHz Sweep 2.400 ms (3001 pts) #VBW 300 kHz

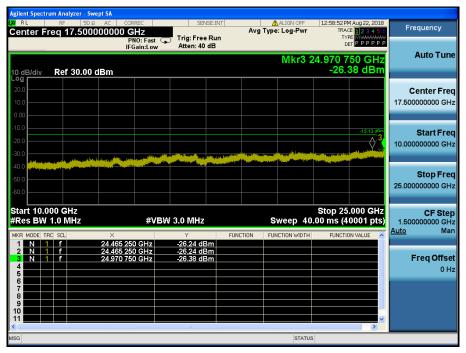
High Band-edge



Reference

	Analyzer - Swept SA RF 50 Ω 🛕 DC	CORREC	SENSE:IJ	JT	ALIGN OFF	12:58:36 DN	1 Aug 22, 2018	
	15.004500 N			Avg	Type: Log-Pwr	TRAC	E 123456 E MWWWWW T P P P P P P	Frequency
10 dB/div R	ef 30.00 dBm				I	Vkr2 28 -45.8	1.9 kHz 84 dBm	Auto Tune
20.0 10.0 0.00								Center Freq 15.004500 MHz
-10.0							-15.13 dBm	Start Fred 9.000 kHz
-40.0 2 -50.0	MunisternergyakerenetAssibut	essisfeletterizzonet.lutivetert	han an a	trategage Highlic hadaged	Winey, and a second		and a set of the first first set	Stop Fred 30.000000 MHz
Start 9 kHz #Res BW 10			V 300 kHz	FUNCTION	Sweep 5.3	133 ms (4		CF Step 2.999100 MH <u>Auto</u> Mar
	f f	281.9 kHz 281.9 kHz	-45.84 dBm -45.84 dBm					Freq Offse 0 H
7 8 9 9 10 11 1 1 1 1 1 1 1 1 1 1 1 1 1 1 1							~	
SG					STATUS	DC Cou	upled	

Agilent Spectrum	Analyzer - Swep	AC CORF	REC	SEN	SE:INT		ALIGN OFF		M Aug 22, 2018	
Center Fre	q 5.015000	PN	0: Fast 🔾	Trig: Free Atten: 40		Avg	Type: Log-Pwr	TRA/ TY	ET P P P P P P	Frequency
10 dB/div	Ref 30.00 dl		ain:Low	Atten: 40	dB		Mkr	5 5.847	50 GHz 94 dBm	Auto Tune
		1								Center Freq 5.015000000 GHz
-10.0 -20.0 -30.0					Ball Bal	54	2 ²		-15.13 dBm	Start Freq 30.000000 MHz
-40.0 -50.0 -60.0										Stop Freq 10.000000000 GHz
Start 30 MH #Res BW 1.	0 MHz		#VBV	V 3.0 MHz			Sweep 18	.67 ms (4		CF Step 997.000000 MHz Auto Man
MKR MODE TRC 1 N 1 2 N 1 3 N 1 4 N 1 5 N 1 6 - - 7 - -	f f f f f	× 2.456 70 7.178 74 7.112 69 6.054 62 5.847 50	GHz GHz GHz	Y 12.63 dB -34.69 dB -34.79 dB -34.81 dB -34.94 dB	m m m m	ICTION	FUNCTION WIDTH	FUNCTI	ON VALUE	Freq Offset 0 Hz
8 9 10 11 <							STATU	6	~	

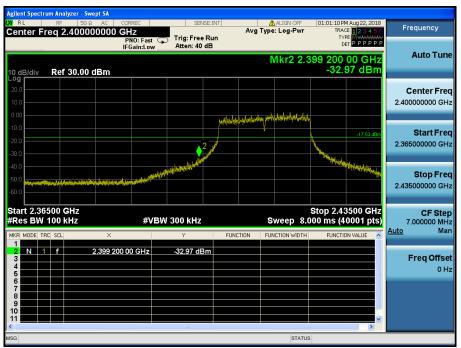


TM 3 & Lowest

Reference

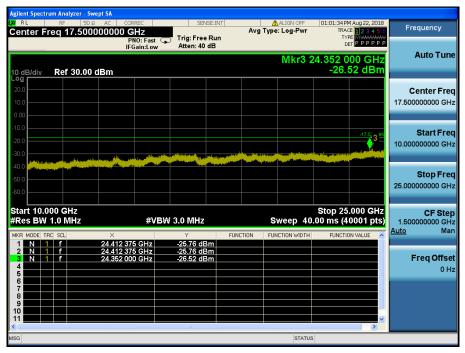


Low Band-edge



Agilent Spectrum Analyzer - 1 XI RL RF 50 Center Freq 15.00	DΩ ▲DC CORREC 4500 MHz PNO: Fast (SENSE:INT	ALIGN OFF Avg Type: Log-Pwr	01:01:18 PM Aug 22, 2018 TRACE 1 2 3 4 5 6 TYPE MWWWW DET P P P P P	Frequency
10 dB/div Ref 30.0	IFGain:Low	Atten: 40 dB		Mkr2 281.9 kHz -45.19 dBm	Auto Tune
20.0 10.0 0.00					Center Freq 15.004500 MHz
-10.0				-17.53 dBm	Start Freq 9.000 kHz
-40.0	หลายสูงรูเป็นสมรณณา (รูรูเมตรสมสมป อง	hashqiftamasina filiyya a kuna tura fu	stravidet Honoranitation of the second state of the second	afn goðainsándurgtigarjunntikarafjálangarstj	Stop Freq 30.000000 MHz
Start 9 kHz #Res BW 100 kHz	×	W 300 kHz Y	Sweep 5.	Stop 30.00 MHz 333 ms (40001 pts)	CF Step 2.999100 MHz <u>Auto</u> Man
1 N 1 f 2 N 1 f 3 4 5 5 6 7 7 7 7 7 7 7 7 7 7 7 7 7 7 7 7 7	281.9 kHz 281.9 kHz	-45.19 dBm -45.19 dBm			Freq Offset 0 Hz
7 8 9 10 11 11				~	
ISG			STATU	s <u>1</u> DC Coupled	

Agilent Spectrum Analyzer - Swe 27 RL RF 50 Ω Center Freq 5.01500	AC CORREC	⊃ Trig: Free Run Atten: 40 dB	ALIGN OFF	01:01:26 PM Aug 22, 2018 TRACE 1 2 3 4 5 6 TYPE M M M M M M P P P P P	Frequency
10 dB/div Ref 30.00 d			Mkr	5 5.855 72 GHz -35.03 dBm	Auto Tune
20.0 10.0	1 				Center Freq 5.015000000 GHz
-10.0 -20.0 -30.0				-17.53 dBm	Start Freq 30.000000 MHz
-40.0 -50.0					Stop Freq 10.000000000 GHz
Start 30 MHz #Res BW 1.0 MHz		V 3.0 MHz		Stop 10.000 GHz .67 ms (40001 pts)	CF Step 997.000000 MHz Auto Man
MKR MODE TRC SCL 1 N 1 F 2 N 1 F 3 N 1 F 4 N 1 F 5 N 1 F 6 - - - 7 - - - 8 - - - 9 - - -	× 2.416 57 GHz 7.257 50 GHz 9.719 84 GHz 9.693 17 GHz 5.855 72 GHz	Y FL 8.99 dBm -34.72 dBm -34.88 dBm -34.88 dBm -35.03 dBm	INCTION FUNCTION WIDTH	FUNCTION VALUE	Freq Offset 0 Hz
10 11 11 11 11 11 11 11 11 11 11 11 11 1			STATUS	×	

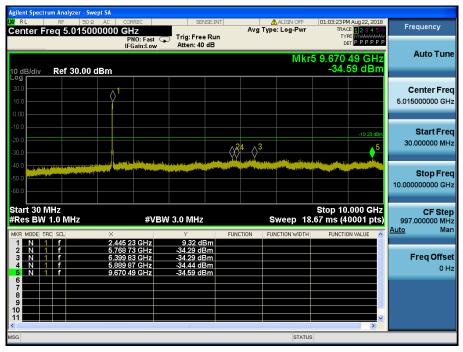


TM 3 & Middle

Reference



RL RF 50 Ω 🧥 DO		SENSE:INT	🛕 ALIGN OFF	01:03:14 PM Aug 22, 2018	Frequency
enter Freq 15.004500	PNO: Fast IFGain:Low	⊃ Trig: Free Run Atten: 40 dB	Avg Type: Log-Pwr	TRACE 123456 TYPE MWWWWW DET PPPPP	
dB/div Ref 30.00 dBn	n			Mkr2 281.9 kHz -47.11 dBm	Auto Tur
29 0.0 0.0 .00					Center Fre 15.004500 Mi
0.0				-18.20 dBm	Start Fre 9.000 kł
0.0 2	haldpays, metadat, hybry	united for fail for the state of the state o	ngal magazing and a string to the date of (1), and	gdinanistraphienanangyaiseterahaninehani	Stop Fr 30.000000 M
art 9 kHz Res BW 100 kHz	#VBW	/ 300 kHz	Sweep 5.	Stop 30.00 MHz 333 ms (40001 pts) FUNCTION VALUE	CF St 2.999100 M <u>Auto</u> M
1 N 1 f 2 N 1 f 3 4 5 5 6	281.9 kHz 281.9 kHz	-47.11 dBm -47.11 dBm			Freq Offs 0
7 B					



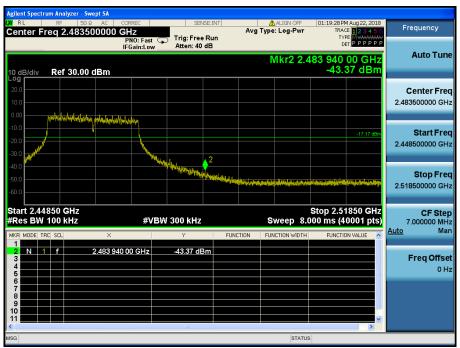
Agilent Spectr	um Analyze	r - Swept SA						
LXIRL	RF	50 Ω AC	CORREC	SENSE		ALIGN OFF	01:03:30 PM Aug 22, 2018 TRACE 1 2 3 4 5 6	Frequency
Center Fr	req 17.5	50000000	PNO: Fast IEGain: Low	Trig: Free F	lun	g Type: Log-Pwr	TYPE MWWWWWWW DET P P P P P	
			IFGain:Low	Atten: 40 u		Mire?	A 472 405 CU	Auto Tune
10 dB/div	Ref 30	.00 dBm				IVIKES 2	24.473 125 GHz -26.05 dBm	
Log 20.0								Center Freq
10.0								17.500000000 GHz
0.00								
-10.0								
-20.0							-18.20 3 n	Start Freq 10.000000000 GHz
-30.0			statut a	and a second	In the second	· · · · · · · · · · · · · · · · · · ·	And a state of the	10.00000000 GH2
-40.0 dfamili			Sold Links Barran And		Constanting Street	Indiana Internetinden		
-50.0								Stop Freq
-60.0								25.00000000 GHz
	00 CH-						Oton 35 000 Oll-	
Start 10.0 #Res BW			#VE	BW 3.0 MHz		Sweep 40	Stop 25.000 GHz .00 ms (40001 pts)	CF Step 1.50000000 GHz
MKR MODE TH		×		Y	FUNCTION	FUNCTION WIDTH	FUNCTION VALUE	Auto Man
1 N 1 2 N 1	f		8 500 GHz 8 500 GHz	-25.70 dBn -25.70 dBn	1 1			
3 N 1	f	24.47	'3 125 GHz	-26.05 dBn	1			Freq Offset
5							=	0 Hz
7								
8 9								
10							~	
<				m				
MSG						STATUS	5	

TM 3 & Highest



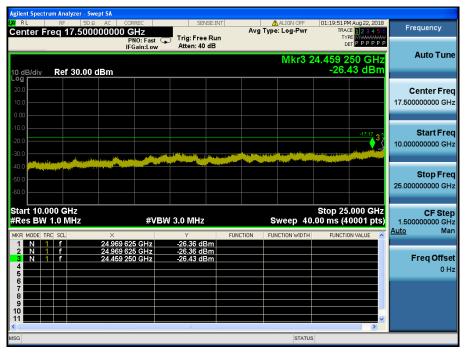
Reference

High Band-edge



Agilent Spectrum Analyzer - Swept XV RL RF 50 Ω	DC CORREC	SENSE:INT	Que T	ALIGN OFF	01:19:35 PM Aug 22, 2018	
Center Freq 15.00450	IU MHZ PNO: Fast IFGain:Low	Trig: Free Run Atten: 40 dB	Avgin		TRACE 12345 TYPE MWWWW DET PPPP	P Auto Tuno
10 dB/div Ref 30.00 dE	3m				/kr2 281.9 kHz -44.80 dBm	
20.0 10.0 0.00						Center Freq 15.004500 MHz
-10.0					-17.17 dBr	Start Fred 9.000 kHz
-40.0	a yalan da ana ang ang ang ang ang ang ang ang an	And you do do an	aprox (hikihiinin il hydyyhy	astime	yalahiyeenyttey teathalahiy teathalyet	Stop Fred 30.000000 MHz
Start 9 kHz #Res BW 100 kHz		/ 300 kHz			Stop 30.00 MHz 33 ms (40001 pts	2.999100 MH
MKR MODE TRC SCL 1 N 1 f 2 N 1 f 3 - - - 4 - - - 5 - - -	× 281.9 kHz 281.9 kHz	-44.80 dBm -44.80 dBm	FUNCTION	FUNCTION WIDTH	FUNCTION VALUE	Freq Offse
6 7 8 9 10 11						
ISG				STATUS	DC Coupled	

Mark RL RF SO @ AC CORREC SERVES:NT ALIGN OFF [01:9:44FM Aug 22, 20:8] Center Freq 5.015000000 GHz Trig: Free Run Avg Type: Log-Pwr Tree Portion Tree Portion Tree Portion Frequen	
PNO Fast (,) High ree is an	- y
IFGainLow Adden. 40 db	Tune
Mkr5 7.180 48 GHz 10 dB/div Ref 30.00 dBm35.09 dBm	Tune
Control Center 100 1 5.01500000	
	t Freq 0 MHz
400 months and a second	Freq 0 GHz
#Res BW 1.0 MHz #VBW 3.0 MHz Sweep 18.67 ms (40001 pts) 997.00000	
MKR MODE TRC SCL X Y FUNCTION FUNCTION VIDTH FUNCTION VALUE A	Man
2 N 1 f 6.273 71 GHz 34.57 dBm 3 N f 6.297 64 GHz -34.70 dBm Freq 4 N f 6.297 64 GHz -34.70 dBm Freq 6 N 1 f 7.180 48 GHz -35.09 dBm Freq	Offset 0 Hz
NSG STATUS	

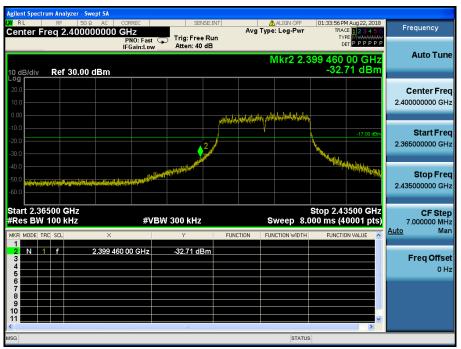


TM 4 & Lowest

Reference

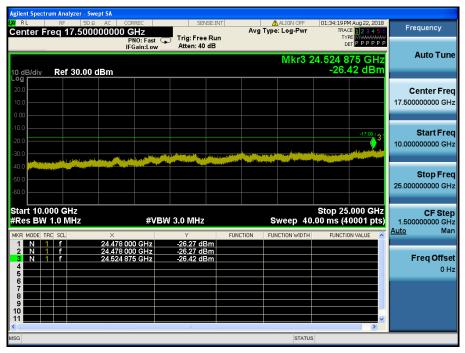


Low Band-edge



RL RF 50	0Ω 🚹 DC 🕴 COR	REC	SENSE	INT	ALIGN OF	01·34·03P	M Aug 22, 2018	
enter Freq 15.00	4500 MHz	NO: Fast 🕞 Gain:Low		A' Run	vg Type: Log-Pw	r TRA	CE 123456 PE MWWWWW ET PPPPP	Frequency
0 dB/div Ref 30.0	0 dBm					Mkr2 28 -46.	1.9 kHz 82 dBm	Auto Tur
0 g 20.0 10.0 0.00								Center Fre 15.004500 M⊦
10.0 20.0 30.0							-17.00 dBm	Start Fre 9.000 kF
40.0 2 50.0 1	piteder 1995 for Åjdersterde	1 lante in a provide	dervelska soger proposed og pri	and wro valents	Yholadaheellaantaheelen	ni laten izuettu siyatin	hithaludarheansinne	Stop Fre 30.000000 M⊦
		#VBW	/ 300 kHz		Sweep	Stop 3 5.333 ms (4		2.999100 M
Res BW 100 kHz KR MODE TRC SCL 1 N 1 f		9 kHz	∨ -46.82 dBm		Sweep FUNCTION WID	5.333 ms (4	0001 pts)	2.999100 M
tart 9 kHz Res BW 100 kHz Ikk MODE TRC SCL N 1 f 3 1 f 4 5 5 5 5 5 5 5 5 5 5 5 5 5 5 5 5 5 5 5	281.		Y	1		5.333 ms (4	.0001 pts)	CF Ste 2.999100 Mi <u>Auto</u> Mi Freq Offs 0 I
Res BW 100 kHz KR MODE TRC SCL 1 N 1 f 2 N 1 f 3 - - - 4 - - - 5 - - -	281.	9 kHz	∨ -46.82 dBm	1		5.333 ms (4	.0001 pts)	2.999100 Mi Auto Mi Freq Offs

Agilent Spectrum Analyzer - Swe (X) RL RF 50 Ω Center Freq 5.01500	AC CORREC	☐ Trig: Free Run Atten: 40 dB	ALIGN OFF	01:34:11PM Aug 22, 2018 TRACE 1 2 3 4 5 6 TYPE M WWWWWWW DET P P P P P P	Frequency
10 dB/div Ref 30.00 d		Atten: 40 db	Mkr	5 6.449 18 GHz -35.22 dBm	Auto Tune
20.0 10.0	1				Center Freq 5.015000000 GHz
-10.0 -20.0 -30.0			⊗ ³ ∮ ⁵ ↓ ⁴	-17.00 dBm	Start Freq 30.000000 MHz
-40.0 -50.0 -60.0					Stop Freq 10.00000000 GHz
Start 30 MHz #Res BW 1.0 MHz	#VB\ ×	V 3.0 MHz	Sweep 18	Stop 10.000 GHz .67 ms (40001 pts)	CF Step 997.000000 MHz Auto Man
MADE FRG SLL 1 N 1 f 2 N 1 f 3 N 1 f 4 N 1 f 5 N 1 f 6 - - - 7 - - -	2.415 32 GHz 5.889 87 GHz 5.943 71 GHz 7.207 90 GHz 6.449 18 GHz	10.59 dBm 35.01 dBm 35.05 dBm 35.07 dBm 35.22 dBm		FUNCTION VALUE	Freq Offset 0 Hz
8 9 10 11 ×		m	STATUS	×	

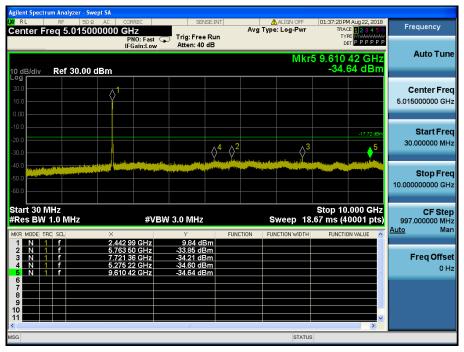


TM 4 & Middle

Reference



Agilent Spectrum Analyzer - Swept SA					
ଅ RL RF 50 ହ∆ଘc Center Freq 15.004500 N		SENSE:INT A' Free Run	ALIGN OFF	01:37:11PM Aug 22, 2018 TRACE 1 2 3 4 5 6 TYPE MWWWWWW	Frequency
		n: 40 dB		DETPPPPP	Auto Tune
10 dB/div Ref 30.00 dBm			ŗ	/lkr2 303.7 kHz -45.94 dBm	
20.0 10.0 0.00					Center Fred 15.004500 MH;
-10.0				-17.72 dBm	Start Free 9.000 kH:
-40.0 2	and the second	haitat http://www.anglowedicaliticades.ofu	edt og nætter eftettet til beske forter efte	พร้องไรสนับสีหรือสามาริการสำครามสาวการ	Stop Free 30.000000 MH:
Start 9 kHz #Res BW 100 kHz	#VBW 300	KHZ	Sweep 5.3	Stop 30.00 MHz 33 ms (40001 pts)	CF Ste 2.999100 MH <u>Auto</u> Ma
1 N 1 F 2 N 1 F 3 4 4 5 2 2 2 2 2 2 2 2 2 2 2 2 2 2 2 2 2 2	303.7 kHz -45.	94 dBm 94 dBm			Freq Offse 0 H
6 7 8 9 10					
		T	STATUS	DC Coupled	



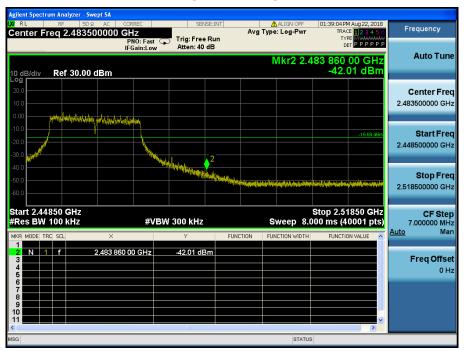
Agilent Spectr	um Analyzer -	Swept SA							
Center F		10 ຄ AC O	ORREC	SENSE:	Avg	ALIGN OFF	01:37:27 PM Aug 22, 2 TRACE 1234	15.6	Frequency
			PNO: Fast FGain:Low	Trig: Free Ru Atten: 40 dB			DET PPP	• P P	
10 dB/div	Ref 30.0	10 dBm				Mkr3 2	4.490 375 G -26.45 dE		Auto Tune
Log 20.0 10.0 0.00									Center Freq 17.500000000 GHz
-10.0 -20.0 -30.0					Applied All and a state of the	WITH REAL FRANK		31	Start Freq 10.000000000 GHz
-40.0 -50.0 -60.0									Stop Freq 25.000000000 GHz
Start 10.0 #Res BW			#VB	W 3.0 MHz		Sweep 40	Stop 25.000 G .00 ms (40001 p	ots)	CF Step 1.50000000 GHz
MKR MODE TH	RC SCL	× 23.748 2		۲ -26.38 dBm	FUNCTION	FUNCTION WIDTH	FUNCTION VALUE		<u>Auto</u> Man
2 N 1 3 N 1 4 5	f f	23.748 2 24.490 3	50 GHz 75 GHz	-26.38 dBm -26.45 dBm					Freq Offset 0 Hz
6 7 8 9 10									
11 								>	
MSG						STATUS	6		

🛈 Dt&C

TM 4 & Highest



High Band-edge



Ngilent Spectrum Analyzer - Swep RL RF 50 Q & Center Freq 15.0045(DC CORREC DO MHZ PNO: Fast	SENSE:INT		ALIGN OFF	01:39:12 PM A TRACE TYPE	ug 22, 2018 2 3 4 5 6 4 4 4 4 5 6	Frequency
10 dB/div Ref 30.00 dl	IFGain:Low	Atten: 40 dB		ſ	Vikr2 281. -46.58	9 kHz	Auto Tune
20.0 10.0 0.00							Center Fred 15.004500 MH;
-10.0						-16.68 dBm	Start Fred 9.000 kH:
-40.0 2	ar-yunothalanda yan sonan	موجه مرز المعرفين ال	itersing for an a former that and	al sind our spectra of shall be	sensel and the second secon	uchijalingerija	Stop Free 30.000000 MH:
Start 9 kHz #Res BW 100 kHz	#VBI	N 300 kHz		Sweep 5.3	Stop 30.0 333 ms (400	01 pts)	CF Stej 2.999100 MH
MKR MODE TRC SCL 1 N 1 f 2 N 1 f 3 4 5	× 281.9 kHz 281.9 kHz	46.58 dBm -46.58 dBm	FUNCTION FI	UNCTION WIDTH	FUNCTION	VALUE A	<u>uuto</u> Ma Freq Offse 0 H
6							
7 8 9 10 11							

Agilent Spectrum Analyzer - Swe (X) RL RF 50 Ω Center Freq 5.01500	AC CORREC	SENSE:INT	ALIGN OFF	01:39:20 PM Aug 22, 2018 TRACE 1 2 3 4 5 6	Frequency
10 dB/div Ref 30.00 d	PNO: Fast 🕞 IFGain:Low	⊃ Trig: Free Run Atten: 40 dB	Mkr	5 9.568 80 GHz -35.13 dBm	Auto Tune
20.0 10.0	↓ ↓				Center Freq 5.015000000 GHz
-10.0 -20.0 -30.0			$\rangle^2 \diamond^3 \diamond^4$	-16.68 dBm	Start Freq 30.000000 MHz
-40.0 -50.0 -60.0				en elle (_{terre and} estate and _{terre}) en en terre and terre	Stop Freq 10.000000000 GHz
Start 30 MHz #Res BW 1.0 MHz	#VBW	/ 3.0 MHz	Sweep 18	Stop 10.000 GHz .67 ms (40001 pts)	CF Step 997.000000 MHz <u>Auto</u> Man
1 N 1 F 2 N 1 F 3 N 1 F 4 N 1 F 5 N 1 F 6	2.455 70 GHz 5.796 90 GHz 6.286 67 GHz 7.315 08 GHz 9.568 80 GHz	9.83 dBm -34.56 dBm -34.75 dBm -34.75 dBm -35.13 dBm			Freq Offset 0 Hz
7 8 9 10 11				>	
MSG			STATUS	3	



8.5 Radiated spurious emissions

Test Requirements and limit, §15.247(d), §15.205, §15.209

In any 100 kHz bandwidth outside the operating frequency band, the radio frequency power that is produced by the intentional radiator shall be at least 20 dB below that in the 100 KHz bandwidth within the band. In case the emission fall within the restricted band specified on 15.205(a) and (b), then the 15.209(a) limit in the table below has to be followed.

- FCC Part 15.209(a) a	nd ((b)
------------------------	------	-----

Frequency (MHz)	Limit (uV/m)	Measurement Distance (meter)
0.009 - 0.490	2400/F (kHz)	300
0.490 - 1.705	24000/F (kHz)	30
1.705 – 30.0	30	30
30 ~ 88	100 **	3
88 ~ 216	150 **	3
216 ~ 960	200 **	3
Above 960	500	3

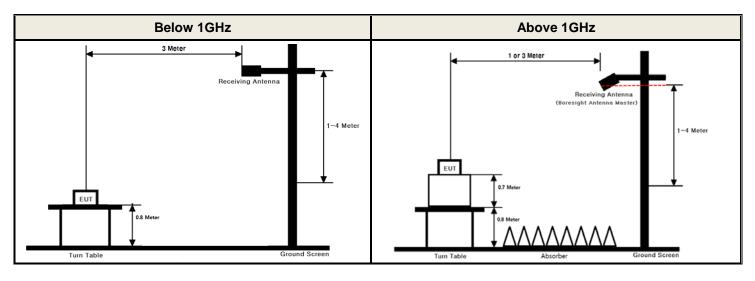
** Except as provided in 15.209(g), fundamental emissions from intentional radiators operating under this Section shall not be located in the frequency bands 54-72 MHz, 76-88 MHz, 174-216 MHz or 470-806 MHz. However, operation within these frequency bands is permitted under other sections of this Part, e.g. 15.231 and 15.241.

• FCC Part 15.205 (a): Only spurious emissions are permitted in any of the frequency bands liste	ed below:
--	-----------

MHz	MHz	MHz	MHz	GHz	GHz
0.009 ~ 0.110	8.41425 ~ 8.41475	108 ~ 121.94	1300 ~ 1427	4.5 ~ 5.15	14.47 ~ 14.5
0.495 ~ 0.505	12.29 ~ 12.293	123 ~ 138	1435 ~ 1626.5	5.35 ~ 5.46	15.35 ~ 16.2
2.1735 ~ 2.1905	12.51975 ~ 12.52025	149.9 ~ 150.05	1645.5 ~ 1646.5	7.25 ~ 7.75	17.7 ~ 21.4
4.125 ~ 4.128	12.57675 ~ 12.57725	156.52475 ~	1660 ~ 1710	8.025 ~ 8.5	22.01 ~ 23.12
4.17725 ~ 4.17775	13.36 ~ 13.41	156.52525	1718.8 ~ 1722.2	9.0 ~ 9.2	23.6 ~ 24.0
4.20725 ~ 4.20775	16.42 ~ 16.423	156.7 ~ 156.9	2200 ~ 2300	9.3 ~ 9.5	31.2 ~ 31.8
6.215 ~ 6.218	16.69475 ~ 16.69525	162.0125 ~ 167.17	2310 ~ 2390	10.6 ~ 12.7	36.43 ~ 36.5
6.26775 ~ 6.26825	16.80425 ~ 16.80475	167.72 ~ 173.2	2483.5 ~ 2500	13.25 ~ 13.4	Above 38.6
6.31175 ~ 6.31225	25.5 ~ 25.67	240 ~ 285	2655 ~ 2900		
8.291 ~ 8.294	37.5 ~ 38.25	322 ~ 335.4	3260 ~ 3267		
8.362 ~ 8.366	73 ~ 74.6	399.90 ~ 410	3332 ~ 3339		
8.37625 ~ 8.38675	74.8 ~ 75.2	608 ~ 614	3345.8 ~ 3358		
		960 ~ 1240	3600 ~ 4400		

• FCC Part 15.205(b): The field strength of emissions appearing within these frequency bands shall not exceed the limits shown in §15.209. At frequencies equal to or less than 1000 MHz, compliance with the limits in §15.209 shall be demonstrated using measurement instrumentation employing a CISPR quasi-peak detector. Above 1000 MHz, compliance with the emission limits in §15.209 shall be demonstrated based on the average value of the measured emissions. The provisions in §15.35 apply to these measurements.

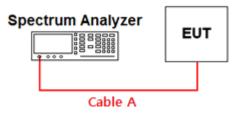
Test Configuration



Test Procedure

- 1. The EUT is placed on a non-conductive table, emission measurements at below 1 GHz, the table height is 80 cm and above 1 GHz, the table height is 1.5 m.
- 2. The turntable shall be rotated for 360 degrees to determine the position of maximum emission level.
- 3. EUT is set 1 or 3 m away from the receiving antenna, which is varied from 1 m to 4 m to find out the highest emissions.
- 4. Maximum procedure was performed on the six highest emissions to ensure EUT compliance.
- 5. And also, each emission was to be maximized by changing the polarization of receiving antenna both horizontal and vertical.
- 6. Repeat above procedures until the measurements for all frequencies are complete.

Conducted Measurement



Path loss information

Frequency (GHz)	Path Loss (dB)	Frequency (GHz)	Path Loss (dB)
0.03	0.46	15	2.64
1	0.66	20	4.16
2.412 & 2.437 & 2.462	1.05	25	4.97
5	1.68	-	-
10	2.00	-	-

Note 1: The path loss from EUT to Spectrum analyzer was measured and used for test. Path loss (S/A's correction factor) = Cable A (Attenuator, Applied only when it was used externally)



Measurement Instrument Setting for Radiated Emission Measurements.

The radiated emission was tested according to the section 6.3, 6.4, 6.5 and 6.6 of the ANSI C63.10-2013 with following settings.

Peak Measurement

RBW = As specified in below table, VBW \geq 3 x RBW, Sweep = Auto, Detector = Peak, Trace mode = Max Hold until the trace stabilizes.

Frequency	RBW
9-150 kHz	200-300 Hz
0.15-30 MHz	9-10 kHz
30-1000 MHz	100-120 kHz
> 1000 MHz	1 MHz

Average Measurement:

- 1. RBW = 1 MHz (unless otherwise specified).
- 2. VBW ≥ 3 x RBW.
- 3. Detector = RMS (Number of points $\ge 2 \times \text{Span} / \text{RBW}$)
- 4. Averaging type = power. (i.e., RMS)
- 5. Sweep time = auto.
- 6. Perform a trace average of at least 100 traces.
- 7. A correction factor shall be added to the measurement results prior to comparing to the emission limit in order to compute the emission level that would have been measured had the test been performed at 100 percent duty cycle. The correction factor is computed as follows:
- 1) If power averaging (RMS) mode was used in step 4, then the applicable correction factor is 10 log(1/x), where x is the duty cycle.
- 2) If linear voltage averaging mode was used in step 4, then the applicable correction factor is 20 log(1/x), where x is the duty cycle.
- 3) If a specific emission is demonstrated to be continuous (≥ 98 percent duty cycle) rather than turning on and off with the transmit cycle, then no duty cycle correction is required for that emission.

Duty Cycle Correction factor

Test Mode	Date rate	Duty Cycle (%)	Duty Cycle Correction Factor (dB)
TM 1	11 Mbps	97.46	0.12
TM 2	36 Mbps	91.07	0.41
TM 3	MCS 6	87.43	0.59
TM 4	MCS 6	87.68	0.58

Test Results: Comply

Please refer to next page for data table and the appendix I for worst data plots.

liadiatoa	opunouo					,	<u> </u>				
Tested Frequency	Frequency (MHz)	ANT Pol	EUT Position (Axis)	Detector Mode	Reading (dBuV)	T.F (dB/m)	DCCF (dB)	DCF (dB)	Result (dBuV/m)	Limit (dBuV/m)	Margin (dB)
	2389.85	Н	Y	PK	52.87	2.70	N/A	N/A	55.57	74.00	18.43
Louiset	2390.00	Н	Y	AV	43.46	2.70	0.12	N/A	46.28	54.00	7.72
Lowest	4823.43	Н	Z	PK	49.51	1.49	N/A	N/A	51.00	74.00	23.00
	4823.69	Н	Z	AV	39.03	1.49	0.12	N/A	40.64	54.00	13.36
NA: -Lalla	4873.92	Н	Z	PK	49.27	1.62	N/A	N/A	50.89	74.00	23.11
Middle	4873.19	Н	Z	AV	38.92	1.62	0.12	N/A	40.66	54.00	13.34
	2483.93	Н	Y	PK	52.55	3.10	N/A	N/A	55.65	74.00	18.35
Lichaat	2483.77	Н	Y	AV	43.12	3.10	0.12	N/A	46.34	54.00	7.66
Highest	4923.29	Н	Z	PK	49.49	1.78	N/A	N/A	51.27	74.00	22.73

Radiated Spurious Emissions data(9 kHz ~ 25 GHz) : TM 1

Note.

1. The radiated emissions were investigated 9kHz to 25GHz. And no other spurious and harmonic emissions were found above listed frequencies.

1.78

0.12

N/A

40.49

54.00

13.51

2. Sample Calculation.

4923.46

Н

Ζ

Margin = Limit – Result / Result = Reading + T.F + DCCF + DCF / T.F = AF + CL – AG Where, T.F = Total Factor, AF = Antenna Factor, CL = Cable Loss, AG = Amplifier Gain, DCCF = Duty Cycle Correction Factor, DCF = Distance Correction Factor

38.59

AV

3. Information of Distance Factor.

For finding emissions, the test distance might be reduced from 3m to 1m. In this case, the distance factor(-9.54dB) is applied to the result.



Radiated	Spurious	Emis	sions d	ata(9 kH	lz ~ 25 G	GHz) : <u><i>TN</i></u>	<u>12</u>				
Tested Frequency	Frequency (MHz)	ANT Pol	EUT Position (Axis)	Detector Mode	Reading (dBuV)	T.F (dB/m)	DCCF (dB)	DCF (dB)	Result (dBuV/m)	Limit (dBuV/m)	Margin (dB)
	2389.88	Н	Y	PK	61.15	2.70	N/A	N/A	63.85	74.00	10.15
1	2389.74	Н	Y	AV	47.10	2.70	0.41	N/A	50.21	54.00	3.79
Lowest	4824.35	Н	Z	PK	49.58	1.49	N/A	N/A	51.07	74.00	22.93
	4824.64	Н	Z	AV	39.30	1.49	0.41	N/A	41.20	54.00	12.80
Middle	4872.19	н	Z	PK	48.92	1.62	N/A	N/A	50.54	74.00	23.46
Middle	4872.24	Н	Z	AV	38.79	1.62	0.41	N/A	40.82	54.00	13.18

62.79

47.27

49.13

38.64

Note.

Highest

1. The radiated emissions were investigated 9kHz to 25GHz. And no other spurious and harmonic emissions were found above listed frequencies.

3.10

3.10

1.78

1.78

N/A

0.41

N/A

0.41

N/A

N/A

N/A

N/A

65.89

50.78

50.91

40.83

74.00

54.00

74.00

54.00

8.11

3.22

23.09

13.17

2. Sample Calculation.

2483.58

2483.54

4925.77

4925.13

Н

Н

н

Н

Υ

Y

Ζ

Ζ

ΡK

AV

ΡK

AV

Margin = Limit - Result / Result = Reading + T.F+ DCCF + DCF / T.F = AF + CL - AG Where, T.F = Total Factor, AF = Antenna Factor, CL = Cable Loss, AG = Amplifier Gain, DCCF = Duty Cycle Correction Factor, DCF = Distance Correction Factor

3. Information of Distance Factor.

For finding emissions, the test distance might be reduced from 3m to 1m. In this case, the distance factor(-9.54dB) is applied to the result.



Radiated	Spurious	Emis	sions d	ata(9 kH	lz ~ 25 G	GHz) : <u><i>TN</i></u>	<u>// 3</u>				
Tested Frequency	Frequency (MHz)	ANT Pol	EUT Position (Axis)	Detector Mode	Reading (dBuV)	T.F (dB/m)	DCCF (dB)	DCF (dB)	Result (dBuV/m)	Limit (dBuV/m)	Margin (dB)
	2389.78	н	Y	PK	61.25	2.70	N/A	N/A	63.95	74.00	10.05
Lowest	2389.71	Н	Y	AV	46.08	2.70	0.59	N/A	49.37	54.00	4.63
Lowest	4824.93	Н	Z	PK	49.59	1.49	N/A	N/A	51.08	74.00	22.92
	4824.80	Н	Z	AV	39.06	1.49	0.59	N/A	41.14	54.00	12.86
Middle	4872.81	Н	Z	PK	49.13	1.62	N/A	N/A	50.75	74.00	23.25
ivildule			_								

38.77

59.11

46.66

49.84

38.68

Note.

Highest

1. The radiated emissions were investigated 9kHz to 25GHz. And no other spurious and harmonic emissions were found above listed frequencies.

1.62

3.10

3.10

1.78

1.78

0.59

N/A

0.59

N/A

0.59

N/A

N/A

N/A

N/A

N/A

40.98

62.21

50.35

51.62

41.05

54.00

74.00

54.00

74.00

54.00

13.02

11.79

3.65

22.38

12.95

2. Sample Calculation.

4872.87

2483.77

2483.71

4924.32

4923.98

Н

Н

Н

н

Н

Ζ

Υ

Y

Ζ

Ζ

AV

ΡK

AV

ΡK

AV

Margin = Limit – Result / Result = Reading + T.F + DCCF + DCF / T.F = AF + CL – AG Where, T.F = Total Factor, AF = Antenna Factor, CL = Cable Loss, AG = Amplifier Gain, DCCF = Duty Cycle Correction Factor, DCF = Distance Correction Factor

3. Information of Distance Factor.

For finding emissions, the test distance might be reduced from 3m to 1m. In this case, the distance factor(-9.54dB) is applied to the result.



Radiated	Spurious	Emis	sions d	ata(9 kH	z ~ 25 G	GHz) : <u><i>TN</i></u>	14				
Tested Frequency	Frequency (MHz)	ANT Pol	EUT Position (Axis)	Detector Mode	Reading (dBuV)	T.F (dB/m)	DCCF (dB)	DCF (dB)	Result (dBuV/m)	Limit (dBuV/m)	Margin (dB)
	2389.41	Н	Y	PK	59.57	2.70	N/A	N/A	62.27	74.00	11.73
Lowoot	2389.68	Н	Y	AV	46.41	2.70	0.58	N/A	49.69	54.00	4.31
Lowest	4825.06	Н	Z	PK	49.98	1.49	N/A	N/A	51.47	74.00	22.53
	4825.07	Н	Z	AV	39.12	1.49	0.58	N/A	41.19	54.00	12.81
Middle	4872.11	Н	Z	PK	49.34	1.62	N/A	N/A	50.96	74.00	23.04
Middle			_								

38.76

59.40

47.11

48.82

38.89

Note.

Highest

1. The radiated emissions were investigated 9kHz to 25GHz. And no other spurious and harmonic emissions were found above listed frequencies.

1.62

3.10

3.10

1.78

1.78

0.58

N/A

0.58

N/A

0.58

N/A

N/A

N/A

N/A

N/A

40.96

62.50

50.79

50.60

41.25

54.00

74.00

54.00

74.00

54.00

13.04

11.50

3.21

23.40

12.75

2. Sample Calculation.

4871.91

2484.04

2483.59

4923.92

4924.40

Н

Н

Н

н

Н

Ζ

Υ

Y

Ζ

Ζ

AV

ΡK

AV

ΡK

AV

Margin = Limit – Result / Result = Reading + T.F + DCCF + DCF / T.F = AF + CL – AG Where, T.F = Total Factor, AF = Antenna Factor, CL = Cable Loss, AG = Amplifier Gain, DCCF = Duty Cycle Correction Factor, DCF = Distance Correction Factor

3. Information of Distance Factor.

For finding emissions, the test distance might be reduced from 3m to 1m. In this case, the distance factor(-9.54dB) is applied to the result.

8.6 Power-line conducted emissions

Test Requirements and limit, §15.207

For an intentional radiator which is designed to be connected to the public utility (AC) power line, the radio frequency voltage that is conducted back onto the AC power line on any frequency or frequencies within the band 150 kHz to 30 MHz shall not exceed the limits in the following table, as measured using a 50 uH/50 ohm line impedance stabilization network(LISN).

Compliance with the provision of this paragraph shall on the measurement of the radio frequency voltage between each power line and ground at the power terminal. The lower applies at the boundary between the frequency ranges.

Frequency Range	Conducted Limit (dBuV)						
(MHz)	Quasi-Peak	Average					
0.15 ~ 0.5	66 to 56 *	56 to 46 *					
0.5 ~ 5	56	46					
5 ~ 30	60	50					

* Decreases with the logarithm of the frequency

Compliance with this provision shall be based on the measurement of the radio frequency voltage between each power line (LINE and NEUTRAL) and ground at the power terminals.

Test Configuration

See test photographs for the actual connections between EUT and support equipment.

Test Procedure

- 1. The EUT is placed on a wooden table 80 cm above the reference ground plane.
- 2. The EUT is connected via LISN to the test power supply.
- 3. The measurement results are obtained as described below:
- 4. Detectors Quasi Peak and Average Detector.

Test Results: Comply(Refer to next page.)

The worst data was reported.

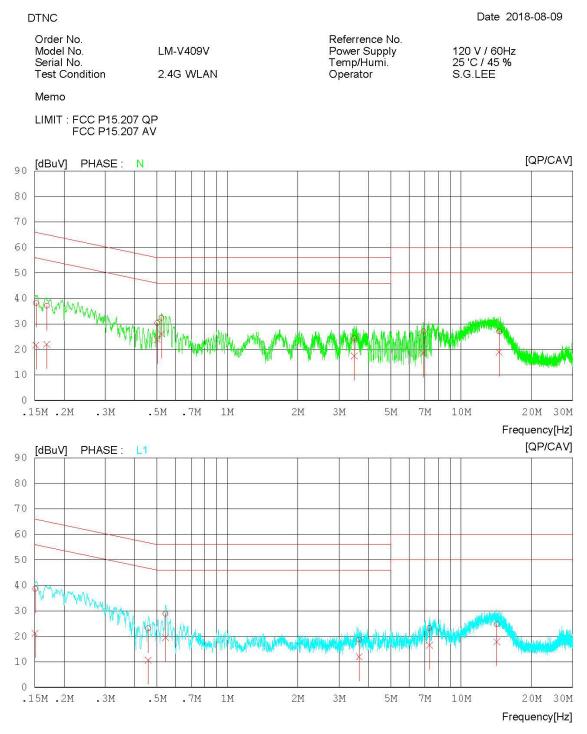


RESULT PLOTS

AC Line Conducted Emissions (Graph)

Test Mode: TM2 & 2412 MHz

Results of Conducted Emission



AC Line Conducted Emissions (List)

Test Mode: TM2 & 2412 MHz

DTNC

Results of Conducted Emission

Date 2018-08-09

Order No. Model No. Serial No. Test Condition	LM-V409V 2.4G WLAN	Referrence No. Power Supply Temp/Humi. Operator	120 V / 60Hz 25 'C / 45 % S.G.LEE
Memo			
LIMIT : FCC P1 FCC P1	5.207 QP 5.207 AV		
NO FREQ [MHz]	READING C.FACTOR QP CAV [dBuV][dBuV] [dB]	RESULT LIMIT QP CAV QP CAV [dBuV][dBuV] [dBuV]	MARGIN PHASE QP CAV [dBuV][dBuV]

	Charlen and	10-0000 PAARD	5. 6 .5169.59/51/902/0		Approximation and a particular of	5=0 0=31.5910.003.000	8 - 6 -600802400240 12	et etterstationers to terror ander	20. 0	
1	0.15196	28.22	11.63	9.99	38.2121.62	65.89	55.89	27.6834.27	N	
2	0.16904	27.17	12.06	9.97	37.14 22.03	65.01	55.01	27.8732.98	Ν	
3	0.50158	20.35	13.88	9.99	30.34 23.87	56.00	46.00	25.6622.13	Ν	
4	0.52300	22.40	16.16	9.99	32.3926.15	56.00	46.00	23.61 19.85	Ν	
5	3.49480	14.42	7.43	10.06	24.4817.49	56.00	46.00	31.5228.51	Ν	
6	6.90480	16.85	8.43	10.14	26.9918.57	60.00	50.00	33.01 31.43	Ν	
7	14.55940	16.71	8.64	10.30	27.01 18.94	60.00	50.00	32.99 31.06	Ν	
8	0.15068	28.58	11.15	9.99	38.5721.14	65.96	55.96	27.3934.82	L1	
9	0.45878	13.13	0.74	9.98	23.11 10.72	56.71	46.71	33.6035.99	L1	
10	0.54418	18.87	9.55	9.98	28.85 19.53	56.00	46.00	27.15 26.47	L1	
11	3.66560	8.65	1.86	10.06	18.7111.92	56.00	46.00	37.2934.08	L1	
12	7.32860	13.07	6.31	10.15	23.2216.46	60.00	50.00	36.7833.54	L1	
13	14.21080	14.48	7.55	10.29	24.7717.84	60.00	50.00	35.23 32.16	L1	

9. LIST OF TEST EQUIPMENT

Туре	Manufacturer	Model	Cal.Date (yy/mm/dd)	Next.Cal.Date (yy/mm/dd)	S/N
Spectrum Analyzer	Agilent Technologies	N9020A	17/12/28	18/12/28	MY50200816
Spectrum Analyzer	Agilent Technologies	N9020A	18/01/03	19/01/03	MY48011700
Multimeter	FLUKE	17B	17/12/26	18/12/26	26030065WS
DC Power Supply	Agilent	66332A	18/07/02	19/07/02	US37473422
Signal Generator	Rohde Schwarz	SMBV100A	17/12/27	18/12/27	255571
Signal Generator	ANRITSU	MG3695C	18/02/12	19/02/12	173501
Thermohygrometer	BODYCOM	BJ5478	18/07/09	19/07/09	N/A
Thermohygrometer	BODYCOM	BJ5478	18/01/03	19/01/03	120612-1
Loop Antenna	Schwarzbeck	FMZB1513	18/01/30	20/01/30	1513-128
Bilog Antenna	Schwarzbeck	VULB 9160	18/07/13	20/07/13	3359
Horn Antenna	ETS-Lindgren	3115	17/01/13	19/01/13	9202-3820
Horn Antenna	Schwarzbeck	BBHA 9120C	17/12/04	19/12/04	9120C-561
Horn Antenna	A.H.Systems Inc.	SAS-574	17/07/31	19/07/31	155
PreAmplifier	H.P	8447D	17/12/26	18/12/26	2944A07774
PreAmplifier	tsj	MLA-0118-J01-45	18/02/08	19/02/08	17138
PreAmplifier	tsj	MLA-1840-J02-45	18/07/06	19/07/06	16966-10728
Attenuator	SMAJK	SMAJK-2-3	18/07/02	19/07/02	3
Attenuator	Aeroflex/Weinschel	56-3	18/07/02	19/07/02	Y2370
Attenuator	SRTechnology	F01-B0606-01	18/07/02	19/07/02	13092403
Attenuator	Hefei Shunze	SS5T2.92-10-40	18/07/03	19/07/03	16012202
High Pass Filter	Wainwright Instruments	WHNX8.0/26.5-6SS	18/07/02	19/07/02	3
High Pass Filter	Wainwright Instruments	WHKX12-935-1000- 15000-40SS	18/07/02	19/07/02	8
High Pass Filter	Wainwright Instruments	WHKX10-2838- 3300-18000-60SS	18/07/02	19/07/02	1
Power Meter &	A 1/	ML2495A			1306007
Wide Bandwidth Sensor	Anritsu	MA2490A	18/04/17	19/04/17	1249001
EMI Test Receiver	Rohde Schwarz	ESW44	18/08/06	19/08/06	101645
EMI Test Receiver	Rohde Schwarz	ESCI7	18/02/12	19/02/12	100910
PULSE LIMITER	Rohde Schwarz	ESH3-Z2	17/09/29	18/09/29	101333
LISN	SCHWARZBECK	NNLK 8121	18/03/20	19/03/20	06183
CABLE	DTNC	CABLE	18/06/22	19/06/22	RF-82
CABLE	HUBER+SUHNER	SUCOFLEX	17/12/22	18/12/22	C-1
CABLE	HUBER+SUHNER	SUCOFLEX	17/12/22	18/12/22	C-2
CABLE	HUBER+SUHNER	SUCOFLEX	17/12/22	18/12/22	C-3
CABLE	HUBER+SUHNER	SUCOFLEX	17/12/22	18/12/22	C-4
CABLE	DTNC	CABLE	18/03/26	19/03/26	RF-68
CABLE	DTNC	CABLE	18/03/26	19/03/26	P-IN
CABLE	DTNC	CABLE	18/03/26	19/03/26	RF-71
CABLE	Radiall	TESTPRO3	18/06/22	19/06/22	RF-74
CABLE	Radiall	TESTPRO3	18/02/28	19/02/28	RF-66

Note 1: The measurement antennas were calibrated in accordance to the requirements of ANSI C63.5-2017 Note 2: The cable is not a regular calibration item, so it has been calibrated by DT & C itself.

APPENDIX I

Duty cycle plots

Test Procedure

Duty Cycle was measured using section 6.0 b) of KDB558074 D01V04 :

The zero-span mode on a spectrum analyzer or EMI receiver if the response time and spacing between bins on the sweep are sufficient to permit accurate measurements of the on and off times of the transmitted signal. Set the center frequency of the instrument to the center frequency of the transmission. Set RBW \geq OBW if possible; otherwise, set RBW to the largest available value. Set VBW \geq RBW. Set detector = peak or average.

The zero-span measurement method shall not be used unless both RBW and VBW are > 50/T and the number of sweep points across duration T exceeds 100. (For example, if VBW and/or RBW are limited to 3 MHz, then the zero-span method of measuring duty cycle shall not be used if T \leq 16.7 microseconds.)

Duty Cycle

TM 1 & Middle

RL Weep			50 Ω / A 00 ms	PNO	:Fast 🕞			Avg Ty	ALIGN OFF	12:49:15 PM TRACE TYPE DET	Aug 22, 2018 1 2 3 4 5 6 WWWWWWWW P P P P P P	Sweep/Control Sweep Tim
0 dB/div	/ F	tef 30	.00 dB		n:Low	Atten: 40	ab		4	Mkr3 1.2		5.000 n
.og 20.0 (11) 10.0				- Hill Information, Income	a and a solution of the	X	Vici, a. faita yan, bahili	a second and a second as a	3∆4 			
0.00												
10.0 20.0												
30.0 40.0						ļ						
50.0												
			00 GH:	z						Sp	an 0 Hz	
KR MODE	TRC	SCL		×		/ 50 MHz			Sweep 5.	000 ms (10 FUNCTION		
1 Δ2 2 F 3 Δ4 4 F 5	1	t (∆) t t (∆) t		2.138	ms (Δ)	6.06 12.15 dE 7.11 12.15 dE	3m dB					Gati [Off,LC
6 7 8												Poir
9												100
11											>	

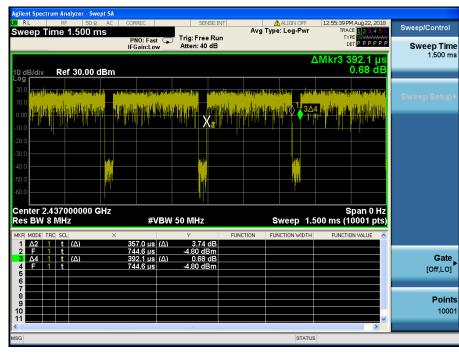
Dt&C

TM 2

Middle

&

Duty Cycle



& Middle

TM 3

Swent SA W RL RF 50 Q AC LURING Center Freq 2.437000000 GHz PN0: Fast C IFGain:Low Atten: 40 dB ALIGN OFF Avg Type: Log-Pwr 01:02:17 PM Aug 22, 201 Frequency DET PPPP Auto Tune ΔMkr3 280.0 μs -0.28 dB Ref 30.00 dBm **Center Freq** 2.437000000 GHz i Mili Start Freq 2.437000000 GHz Stop Freq 2.437000000 GHz Center 2.437000000 GHz Res BW 8 MHz Span 0 Hz Sweep 1.200 ms (10001 pts) CF Step 8.000000 MHz #VBW 50 MHz <u>Auto</u> Man FUNCTION (Δ) (Δ) -6.46 dB -5.75 dBm 1 t (Δ) 1 t Freq Offset μs (Δ) -0.28 dB -5.75 dBm 0 Hz STATUS

Duty Cycle

Dt&C

TM 4 &

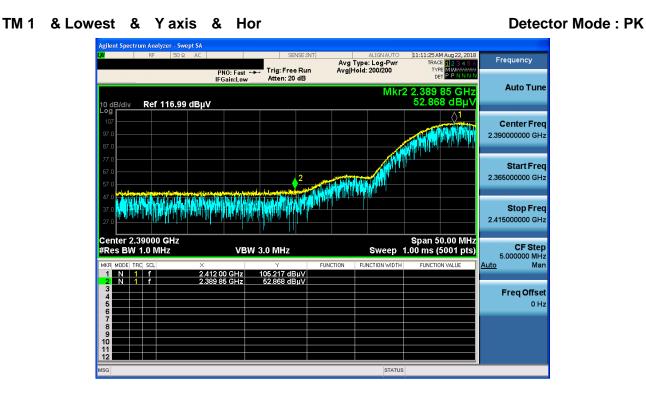
& Middle

Duty Cycle

enter Fr	eq 2.4370	00000 GI	RREC HZ NO: Fast	Trig: Fr			ALIGN OFF	TRA	M Aug 22, 2018 CE 123456 PE V A B B B B B B B B B B B B B B B B B B	Frequency
0 dB/div	Ref 30.00	IF	Gain:Low	Atten: 4	10 dB		/	Mkr3 2	284.0 μs 0.06 dB	Auto Tu
° g 20.0 11,¹ - 4,1 (11) 10.00 11,11 - 4,11 - 4		den service des Hérentelse bert		ene el el polarente, el esté de la composition		3 <u>44</u>			i polositet et al secto a de la sela to se as a de la sela to se as	Center Fi 2.437000000 G
20.0 20.0				₽ ¹¹						Start Fr 2.437000000 G
i0.0 50.0 50.0										Stop Fr 2.437000000 G
es BW 8			#VE	W 50 MHz			weep 1.2	200 ms (1		CF S1 8.000000 M Auto M
KR MODE TR 1 Δ2 1 2 F 1 3 Δ4 1 4 F 1 5 5 5	t (Δ) t t (Δ) t t (Δ)	4	49.0 µs (/ 36.3 µs 84.0 µs (/ 36.3 µs	-7.39	3 dB dBm 5 dB	CTION FUN	ICTION WIDTH	FUNCTI	DN VALUE	Freq Off
6 7 8 9 0										
				ш						

APPENDIX II

Unwanted Emissions (Radiated) Test Plot



TM 1 & Lowest & Yaxis & Hor



TM 1 & Highest & Yaxis & Hor





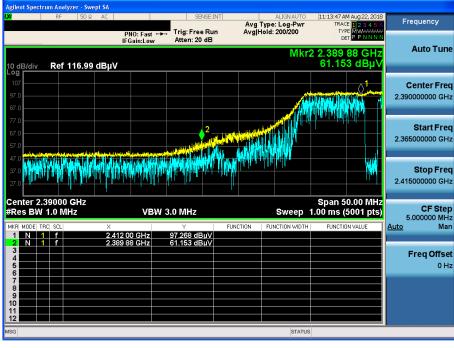
TM 1 & Highest & Yaxis & Hor



🛈 Dt&C

TM 2 & Lowest & Yaxis & Hor





TM 2 & Lowest & Yaxis & Hor

Avg Type: RMS Avg|Hold: 200/200 Frequency Trig: Free Run Atten: 20 dB PNO: Fast IFGain:Low APN Auto Tune Mkr2 2.389 74 GH 47.101 dBµ Ref 116.99 dBµV **Center Freq** 2.390000000 GHz Start Freq 2.365000000 GHz Stop Freq 2.415000000 GHz Center 2.39000 GHz #Res BW 1.0 MHz Span 50.00 MHz 1.00 ms (5001 pts) CF Step 5.000000 MHz VBW 3.0 MHz* Sweep FUNCTION <u>Auto</u> Mar 2.412 00 GHz 2.389 74 GHz 90.160 dBµV 47.101 dBµV N 1 f N 1 f Freq Offset 0 Hz 11 12 STATUS

TM 2 & Highest & Yaxis & Hor



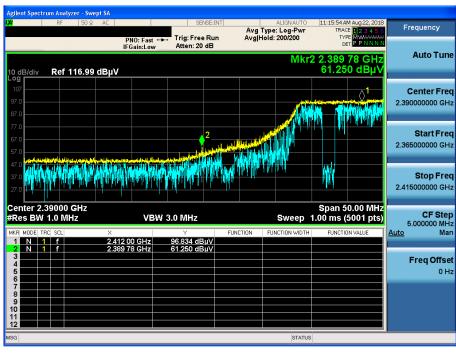


TM 2 & Highest & Yaxis & Hor



TM 3 & Lowest & Yaxis & Hor





TM 3 & Lowest & Yaxis & Hor

Detector Mode : AV



98.758 dBµV 59.108 dBµV

2.462 00 GHz 2.483 77 GHz

Detector Mode : PK

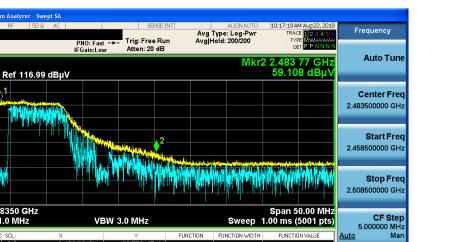
TM 3 & Highest & Yaxis & Hor

01

Center 2.48350 GHz #Res BW 1.0 MHz

N 1 f N 1 f

0 dB/div



Auto

Freq Offset 0 Hz

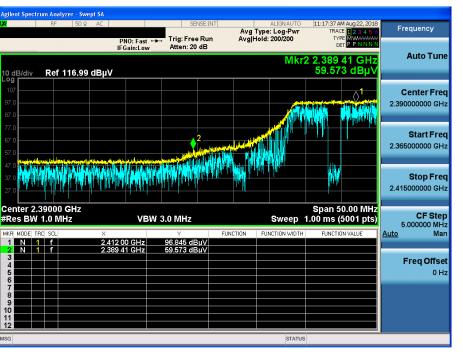
TM 3 & Highest & Yaxis & Hor



Detector Mode : PK

Dt&C

TM 4 & Lowest & Yaxis & Hor

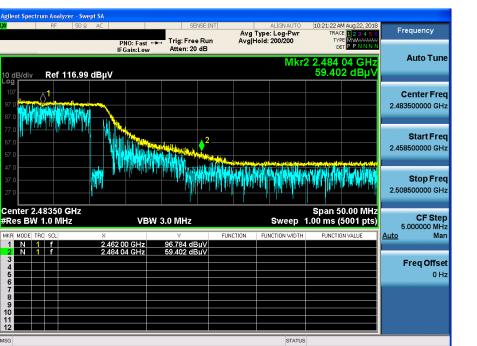


TM 4 & Lowest & Yaxis & Hor

Avg Type: RMS Avg|Hold: 200/200 Frequency Trig: Free Run Atten: 20 dB PNO: Fast IFGain:Low A WAR Auto Tune Mkr2 2.389 68 GH 46.408 dBµ Ref 116.99 dBµV **Center Freq** 2.390000000 GHz Start Freq 2.365000000 GHz Stop Freq 2.415000000 GHz Center 2.39000 GHz #Res BW 1.0 MHz Span 50.00 MHz 1.00 ms (5001 pts) CF Step 5.000000 MHz VBW 3.0 MHz* Sweep FUNCTION <u>Auto</u> Mar 2.412 00 GHz 2.389 68 GHz 88.660 dBµV 46.408 dBµV N 1 f N 1 f Freq Offset 0 Hz 11 12 STATUS

Detector Mode : PK

& Highest & Yaxis & Hor **TM 4**

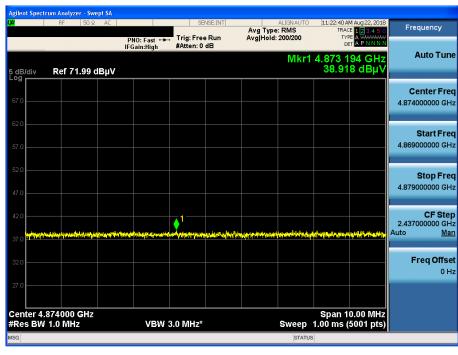


TM 4 & Highest & Yaxis & Hor

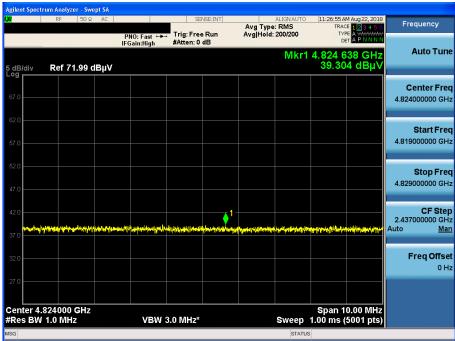


& Middle & Zaxis & Hor **TM 1**





TM 2 & Lowest & Zaxis & Hor



TM 3 & Lowest & Zaxis & Hor





TM 4 & Highest & Zaxis & Hor

Frequency Avg Type: RMS Avg|Hold: 200/200 Trig: Free Run #Atten: 0 dB PNO: Fast IFGain:High DET A P NN P Auto Tune Mkr1 4.924 398 GHz 38.892 dBµV Ref 71.99 dBµV og ┏ **Center Freq** 4.924000000 GHz Start Freq 4.919000000 GHz Stop Freq 4.929000000 GHz CF Step 2.437000000 GHz **** Auto Man Freq Offset 0 Hz Center 4.924000 GHz #Res BW 1.0 MHz Span 10.00 MHz Sweep 1.00 ms (5001 pts) VBW 3.0 MHz*